

I-STEM Software Request - Guide Approval Form

User Details

- **Name of Researcher:** V Amirtharaj
- **User Type:** ☒ Ph.D. Scholar ☐ Postdoctoral Researcher ☐ Bachelor's ☐ Masters
- **Institution Name** : Annamalai University, Tamil Nadu
- **Institutional Contact No:** 04144238282
- **Research Topic:** *Investigations on the Development of Integrated Piezoelectric– Electromagnetic MEMS Energy Harvester cum Sensor*

Software Request Details

- **Software Name:** COMSOL Multiphysics
- **Justification for Software Request:** COMSOL Multiphysics will support the design and multiphysics analysis of the proposed MEMS microsystem. It will be used to model structural dynamics, modal characteristics, piezoelectric energy conversion, and electromagnetic transduction. Parametric simulations will optimize the device geometry, resonance characteristics, bandwidth, and harvested power. The software will also support analysis of vibration-sensing response and changes in dynamic characteristics relevant to structural health monitoring. Electrical circuit modelling will assist in evaluating power conditioning and energy management. Simulation results will be compared with experimental measurements to validate and refine the final device design.

Guide/Supervisor Approval

I, Dr. M Manivannan,

- Confirm that the above-mentioned researcher is affiliated with our institution
- Have reviewed the software request and its relevance to the researcher's academic work
- Approve the software request for research purposes

Approval Confirmation

- I approve the software request
- The software aligns with the researcher's research objectives
- The request meets the institutional research guidelines

M. Manivannan
17/8/2026.



Date: 17/08/2026

Important Notes

1. This form must be signed and scanned
2. The scanned copy must be uploaded with the software request
3. Electronic signatures are acceptable if from an official institutional email